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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/593,962

09/22/2006

Timo Luukas

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03/03/2009

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EXAMINER

GULLEDGE, BRIAN M

ART UNIT

PAPER NUMBER

1619

MAIL DATE

DELIVERY MODE

03/03/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/593,962	LUUKAS, TIMO	
	<b>Examiner</b>	<b>Art Unit</b>	
	Brian Gulledge	1619	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 November 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 57-115 is/are pending in the application.
- 4a) Of the above claim(s) 88-99 and 115 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 57-87 and 100-114 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/22/2006</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election with traverse of Group I (newly added claims 57-87 and 100-114) and a species for the monomeric compound of formula (I) in the reply filed on November 24, 2008 is acknowledged. The traversal is on the ground(s) that the claims share a special technical feature, and finding otherwise is inconsistent with the determination of the ACRI. This is not found persuasive because the Examiner did demonstrate that the groups do not share a special technical feature in the requirement for restriction mailed on October 22, 2008, and additionally the determination of the ACRI also stated that all of the claims do not share a special technical feature (claims 31-56 are stated to not possess inventive step in the same ACRI provided). Claims 88-99 and 115 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim.

The requirement is still deemed proper and is therefore made FINAL.

### ***Priority***

This application claims benefit to provisional applications No. 60/560,016, filed on April 7, 2004, and No. 60/560,704, filed on April 9, 2004, in a language other than English. English translations of the non-English language provisional applications and statements that the translations are accurate must be filed in provisional applications No. 60/560,016 and No. 60/560,704. See 37 CFR 1.78(a)(5). The English translations and the statements that the translation is accurate required by 37 CFR 1.78(a)(5) are missing. Accordingly, applicant must

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supply 1) the missing English translations and the statements that the translation is accurate in provisional applications No. 60/560,016 and No. 60/560,704 and 2) in the present application, a confirmation that the translation and statement were filed in the provisional applications. If 1) and 2) are not filed (or the benefit claim withdrawn by the filing of an amendment or Supplemental Application Data Sheet) prior to the expiration of the time period set in this Office action, the present application will be abandoned. See 37 CFR 1.78(a)(5)(iv).

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**Claims 57-58, 61-64, 66-87, and 100-114 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.** The term "carbon-based radical" in claims 57 and 100 is a relative term which renders the claim indefinite (listed as an option for the –NR– group). The term "carbon-based radical" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The radicals are required to contain from 1 to 30 carbon atoms (recited immediately thereafter), so the undefined term "carbon-based" is appended to an otherwise definite phrase, rendering it modifying function unclear.

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**Claims 59, 61-62, and 71 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.** The term "hydrocarbon-based radical" in the claims is a relative term which renders the claim indefinite (listed as an option for the –NR– group). The term "hydrocarbon-based radical" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The radicals are required to contain from 2 to 18 carbon atoms (recited immediately thereafter), so the undefined term "hydrocarbon-based" is appended to an otherwise definite phrase, rendering its modifying function unclear.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

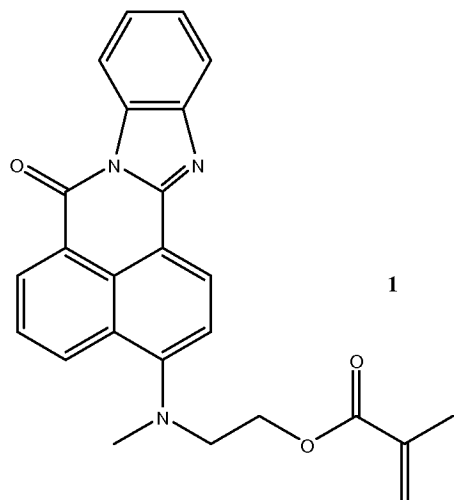
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 57-64, 66-70, 82-83, 100-106, 108-111 are rejected under 35 U.S.C. 102(b) as being anticipated by Chen et al. (Canadian Patent Application Publication 2,169,713).** Chen et al. discloses polymeric material comprising 1,8-naphthalimide derivatives (abstract). An example of the monomeric material made is compound **1**, shown below (page 13), which comprises a methacrylate polymerizable group. Chen et al. discloses the polymerization of this material either alone (page 13, lines 10-14) or with N-vinylcarbazole to form a copolymer (page 14, lines 1-6). Chen et al. discloses that copolymers have from 0.5 to 60 mole% of the

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naphthalimide monomer (page 11, lines 18-20). Thus, the disclosed polymer anticipates the polymer recited in instant claims 100-106 and 108-111.



Chen et al. also discloses combining the polymer with an inert binder, such as polyvinyl alcohol (a film-forming polymer) (page 15, line 29 – page 16, line 4). This composition anticipates the composition recited in instant claims 57-64, 66-70, 76, and 82-82.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 65, 71-76, 107, and 112-114 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. (Canadian Patent Application Publication 2,169,713).** Chen et al. discloses polymers that teach all of the limitations of instant claim 107 except for the species of comonomer (see above). Chen et al. does teach monomeric units that read on the

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instantly recited formula (A), such as the 1,8-naphthalimide derivative disclosed on page 9, line 4. Chen et al. also teaches polymers that combine more than one of the naphthalimide monomers disclosed (page 11, lines 18-20), and thus combining these two monomers in a single polymeric material teaches all of the limitations of instant claim 107.

The specific combination of features claimed is disclosed within the broad genera of the naphthalimide ligands ( $L^1$  and  $L^2$ ) and copolymer compositions that are taught by Chen et al. but such “picking and choosing” within several variables does not necessarily give rise to anticipation. *Corning Glass Works v. Sumitomo Elec.*, 868 F.2d 1251, 1262 (Fed. Circ. 1989). Where, as here, the reference does not provide any motivation to select this specific combination of variables, anticipation cannot be found.

That being said, however, it must be remembered that “[w]hen a patent simply arranges old elements with each performing the same function it had been known to perform and yields no more than one would expect from such an arrangement, the combination is obvious”. *KSR v. Teleflex*, 127 S.Ct. 1727, 1740 (2007) (quoting *Sakraida v. A.G. Pro*, 425 U.S. 273, 282 (1976)). “[W]hen the question is whether a patent claiming the combination of elements of prior art is obvious”, the relevant question is “whether the improvement is more than the predictable use of prior art elements according to their established functions.” (*Id.*). Addressing the issue of obviousness, the Supreme Court noted that the analysis under 35 USC 103 “need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR v. Teleflex*, 127 S.Ct. 1727, 1741 (2007). The Court emphasized that “[a] person of ordinary skill is... a person of ordinary creativity, not an automaton.” *Id.* at 1742.

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Consistent with this reasoning, it would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to have selected various combinations of naphthalimide ligands and copolymer compositions from within the disclosure of Chen et al. to arrive at compositions “yielding no more than one would expect from such an arrangement”.

Instant claims 112 and 113 recite further limitations to the comonomer. Chen et al. teaches that one of the monomers is of formula (3), where M can be a C<sub>1</sub> alkylcarbonyl, and R<sup>9</sup> is methyl (page 11, lines 1-5), thus teaching species recited in instant claims 112 and 113. Instant claim 114 recites that the polymer have a weight-average molecular mass ranging from 5,000 to 600,000 g/mol, and Chen et al. discloses an overlapping range of from 800 to 500,000 g/mol (page 15, lines 7-9). And in cases involving overlapping ranges, the courts have consistently held that even a slight overlap in range establishes a *prima facie* case of obviousness. *In re Peterson*, 65 USPQ2d 1379, 1382 (Fed. Cir. 2003).

Instant claim 65 recites species for the monomeric compound. Chen et al. discloses compounds that read on these species (such as the seventh compound shown), by disclosing that 1,8-naphthalimide derivatives of formula Ib with R<sup>3</sup> being a six carbon substituent, R<sup>5</sup> being hydrogen, and R<sup>6</sup> being methyl (page 1, line 5–page 2, line 17).

The limitations of instant claims 71-75 combine the limitations to the comonomer already discussed with a composition, and as such Chen et al. teaches all of these limitations. Instant claim 76 recites the weight-average molecular mass discussed above, and the instantly recited range overlaps the range taught by Chen et al.



**Claims 77-81 and 84-88 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scales-Medeiros (US Patent 5,626,839) in view of Bradner (US Patent 3,988,437) and Kaul et al. (PCT Patent Application Publication WO 02/066563).** Scales-Medeiros discloses self-tanning compositions that comprise fluorescent materials in a cosmetic carrier (abstract, lines 1-4). Fluorescent materials taught by Scales-Medeiros for use in the cosmetic composition include naphthalimides (column 3, lines 40-46), and these materials are present in from 0.5 to 1 wt% (column 4, lines 50-51). The carrier compositions taught by Scales-Medeiros include the carrier formulations taught by Bradner (column 4, lines 20-23) and can comprise vitamins (column 4, lines 13-15). The composition taught by Scales-Medeiros does not include the limitations to the carrier (water and a fatty phase) or the inclusion of an additional dye or pigment. Scales-Medeiros also does not teach the instantly recited species of polymer.

Bradner teaches carrier formulations for suntan compositions (abstract, lines 1-10). The composition comprises a cream that has water and lanolin present (column 7, example 1).

Kaul et al. teaches polymers comprising monomers functionalized with fluorescent dyes such that the properties of the dye are enhanced, especially stability and fluorescence (page 2, lines 15-20). The monomers include 1,8-naphthalimide compounds of formula (IVa) (page 3, lines 16-17).

Therefore, it would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to have used the carrier formulation taught by Bradner with the composition taught by Scales-Medeiros, and to have used the fluorescent polymer taught by Kaul et al., which has enhanced temperature stability, as the fluorescent dye in said composition. Scales-Medeiros teaches that the carrier compositions disclosed by Bradner are useful for the

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disclosed invention, so Scales-Medeiros provides the suggestion to use a formulation such as the one taught by Bradner. Additionally, Scales-Medeiros teaches multiple compositions comprising dyes and pigments (column 3, lines 40-44). A combination of two of these compositions would meet the limitations of instant claims 80 and 81, and generally, it is *prima facie* obvious to combine two compositions, each of which is taught by the prior art to be useful for same purpose, in order to form a third composition to be used for the very same purpose. The idea for combining them flows logically from their having been individually taught in the prior art. See MPEP 2144.06.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

**Claims 57-87 and 100-114 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 57-58, 62-68, 70-92,**

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**and 106-124 of copending Application No. 10/592,050.** Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant claims are limited to polymers that have one of several “B” ring structures, which fall within the genus of R1 substituents (when R1 comprises an  $\text{-NH}_2$  moiety) that is recited in the copending claims. As such, the instantly recited subject matter is read upon by the conflicting claims.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Conclusion***

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Gullede whose telephone number is (571) 270-5756. The examiner can normally be reached on Monday-Thursday 6:00am - 3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frederick Krass can be reached on (571) 272-0580. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BMG

/Frederick Krass/  
Supervisory Patent Examiner, Art Unit 1612